

REMARKS

In response to the Office Action dated December 29, 2005, the applicants submit the enclosed amendment, including amendments to the specifications, claims and relevant remarks, and submission of formal drawings compliant with 37CFR 1.121(d). Insofar as applicants are filing this response more than 4 months and less than 5 months after the date of the Office Action, applicants enclose herewith are petitioning for an extension of time pursuant to 37 CFR 1.136. A late filing fee in the amount of \$225 is enclosed herewith pursuant to 37 CFR 1.17(a)(2).

With respect to the objection raised pertaining to the drawings by the Examiner and, specifically, the lack of representation of "means for cutting off flow from said air supply hose and said water hose upon disengagement" in the drawings, the applicants have cancelled or otherwise removed that language from the claims, so no amendment to the drawings for that purpose is required. Nonetheless, the applicants submit herewith 6 replacement sheets of formal drawings to bring the application into compliance.

With respect to the use of the term VITON noted by the Examiner in the application, the applicants amend the application to capitalize and properly denote that it is a protected trademark.

Next, with respect to the rejection of claim 12 under Section 112, the applicants have removed the language "means for precise titration of air and water" from the claim and believe that it is now in compliance with 35 USC 112.

Turning to the rejections under section 103, the applicants point out first that Claim 1 has

been amended to include the limitation, from Claim 2, that the claimed instrument is autoclavable and that Claim 2 has been cancelled. The applicants assert that the use of "dry heat sterilization" disclosed in the Gonser reference is fundamentally different from autoclavability. The Gonser notes the sterilization at 600° F, and even makes reference to the failure of O-rings as a result of the exposure to high temperatures. The present invention uses modern autoclave sterilization, which relies upon a lower temperature combined with pressure over time to sterilize the instrument. Where the Gonser instrument is made from materials intended to withstand dry heat at 600° F, the current invention relies upon autoclaving, i.e. the use of superheated steam at 274° F with 30 PSI pressure for 30 minutes, for sterilization. The present invention, and all parts thereof, are built to withstand the pressure and exposure to moisture used in modern autoclaving. The Gonser reference pre-dated modern autoclave techniques and is inadequate as a basis for obviating this design requirement of the present invention. As such, the applicant asserts that the rejection of Claim 1 is not warranted and respectfully requests reconsideration thereof.

Claim 5 presently stands rejected based upon the Detsch, Gonser and Johnston references. In response thereto, the applicants have amended Claim 5 to depend from Claim 1 and, further, to point out that the "means for aligning" the mirror with the valves is located *in the handle* (emphasis added). The present invention, as set forth in Claim 5, incorporates the alignment means formed within the handle, specifically the head section 28 thereof (see page 26 lines 4-5 of the present application), a distinguishing feature from the Detsch and Johnston references. In Detsch, the mirror shank attaches to the exterior of the handle through a protruding collar 110 (see Figures 5-10). In the Johnston reference, the mirror attaches in a sleeve 67 and collar 69 (see Figure 4) that are external to the handle. In both the Detsch and Johnston references, the mirror is attached to the handle by externally protruding elements. This is a significant

disadvantage of those prior art devices because they present a risk of “hooking onto” a patient’s teeth, gums, lips or skin upon being inserted or withdrawn by a dentist. The present invention, on the other hand, comprises a sleek, smooth instrument without any jagged protrusions because the sleeve receiving the mirror, and locking means, are contained within the cylindrical handle. This feature is emphasized by the amendment of Claim 5 and, the applicants assert, warrants the allowance of Claim 5.

Claim 8, as amended, depends from Claim 5 and the applicants assert that it is, for all of the same reasons, similarly allowable. In addition, however, the structure set forth in Claim 8, specifically the alignment means for the mirror relative to the air and water orifices, is also *formed in said handle* (emphasis added). The applicants assert that there is no equivalent alignment structures in the Detsch or Gonser references, and the collar 69 of the Johnston reference is, among other deficiencies, external to the handle. In addition, though, the Johnston collar presents a risk of snagging onto a patient’s teeth, gums, lips or skin. It also is disadvantageous because it relies upon friction between the shank 25 and collar 29 to stay in place; it has no positive holding mechanism that can be locked and will, over time, suffer from metal fatigue and will become loose in the collar until it slides out into a patient’s mouth. The locking means provided by the present invention are clearly advantageous over and unobvious from the prior art, and warrant the allowance of Claim 8.

Claim 9 depends from Claim 8 and is similarly allowable. In addition, though, Claim 9 also includes locking means 86, 88 *formed within the sleeve 82 which is formed in handle* (see page 26 lines 10-18 and Figure 9B). Although not cited in the most recent office action, the only prior art reference disclosing any longitudinal locking means at all, as claimed in Claim 9, was the Freedman (U.S. Pat. No. 3,001,288) clamp shown in Figure 6. However, the Freedman

locking device has the significant disadvantage of being located external to the handle, presenting a risk of hooking and snagging. In the present invention, the locking device is contained in the sleek, smooth instrument handle. The locking device of the present instrument is also beneficial in that it is repeatable and precise, determined by the position of the recess 86 on the shank 80. By defining the locking position of the shank within the sleeve, and preventing any longitudinal translation, the present invention allows the distance from the air and water orifices to the mirror to be well defined, repeatable and tightly controlled. This distance is a feature of critical importance to effective cleaning of the mirror, and the locking means providing for it, is an important and unobvious improvement. There is no recognition or appreciation of the importance of the distance from the orifices to the mirror in the prior art, and the applicants assert that the lack of appreciation of the problem prevented the problem from being solved. As such, the applicants assert that the improved locking means is important, unobvious, warrants allowance of Claim 9, and respectfully requests reconsideration thereof.

With respect to Claims 11 and 12, the applicants appreciate the substantive allowance of those claims and have rewritten them in independent form, incorporating the limitations of the claims from which they depend.

Claims 13, 14, 15, 16 and 17 have been cancelled by the applicants.

With respect to the rejection of Claim 18, the applicants assert first that, insofar as it depends from Claim 9, it is allowable for all of the reasons set forth above. In addition, however, the applicants point out that the means for aligning and means for locking, specifically claimed in Claim 9 as a geometrically shaped shank and sleeve, is *formed in the handle*. As such, given the additional limitation of Claim 18, the applicants assert that Claim 18 is unobvious from the prior art and allowable, and respectfully requests reconsideration thereof.

With respect to Claims 19, the applicants appreciate the substantive allowance of that claim and have rewritten it in independent form, incorporating the limitations of the claims from which it depends.

Claim 20 has been cancelled by the applicants.

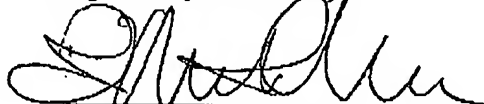
Claim 21 presently stands rejected based upon the Detsch, Gonser and Johnston references. However, insofar as it depends from Claim 9 and includes the limitation that the locking means is located within the handle, the applicants assert that Claim 21 is allowable on that basis. In addition, Claim 21 further specifies that a function of the locking means, to maintain the distance from the air and water orifices to the reflective surface, further distinguishes it from the prior art and adds an additional basis for allowance. The applicants respectfully request favorable reconsideration on that basis.

The applicants have amended the claims to include new claims 22-27 which are, essentially, claims 8, 9, 11, 12, 18, 19 and 21 with the limitation removed that the pushbutton valves are field replaceable. Specifically, Claim 22 is Claim 8 with the "field replaceable pushbutton valve" element removed, Claim 23 is Claim 9, Claim 24 is substantively allowed Claim 11, Claim 25 is substantively allowed Claim 12, Claim 26 is Claim 18, Claim 27 is substantively allowed Claim 19, and Claim 28 is Claim 21. The applicants point out that the Examiner's reliance on Gonser for the proposition that field replaceable pushbutton valves do not provide any distinguishing features obviates their use and renders their inclusion in these claims meaningless. As such, the applicants assert that the new claims 22-27 are allowable for the same reasons that their predecessor claims 8, 9, 11, 12, 18, 19 and 21 are, as set forth above.

In summary, the applicants assert that the present invention, as claimed, has the novel and unobvious features of a defined spray pattern, an alignment means and a locking means, both

formed in the handle, and that the device is autoclavable. In light of all of those features, and the absence thereof in the prior art, the applicants respectfully assert that the present invention, as set forth in Claims 1, 5, 8, 9, 11, 12, 18, 19, 21 and 22-28 are allowable and request favorable reconsideration of all remaining claims and an early notice to that effect.

Respectfully submitted,



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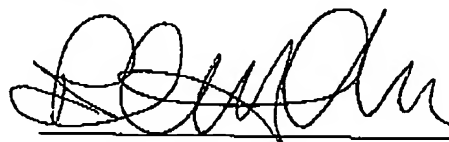
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being faxed to the Central FAX 1(571)273-8300 and deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 11 th day of May, 2006.

5/11/06

DATE



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